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ABSTRACT

This paper reports on a study that examined teachers' perceptions of their relationships with specific students, their experience of stress in relation to those students, and whether those perceptions and experiences translate into observable differences in actual teacher behavior toward those students in the classroom. Specifically, the project explored the validity of two teacher-pupil relationship measures, the Index of Teaching Stress (ITS) and the Student-Teacher Relationship Scale (STRS), for predicting observed teacher behavior toward pupils. Teachers (N=30) from two Virginia middle schools completed three questionnaires regarding their relationships with both a behaviorally challenging and a control student in their classroom. Data analysis revealed that teacher behavior toward the behaviorally challenged child involved more negative and neutral behaviors than toward the control child, while the amount of positive behavior toward each child was not significantly different. Teachers experienced more stress with the behaviorally challenging child than with the control child and as stress increased, they tended to be less engaged with the behaviorally challenging child. Teachers also perceived greater warmth, less conflict, and more positive relations with the control child. Study findings suggested that teachers have different perceptions of and experience different stress levels with regard to specific students in their classroom, and that these differences may bias their behavior toward these students. Seven data tables are attached. (ND)

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TEACHER-STUDENT INTERACTIONS AS PREDICTED BY TEACHING STRESS AND THE PERCEIVED QUALITY OF THE STUDENT-TEACHER RELATIONSHIP

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Introduction

Occupational stress among teachers has become an issue of increasing concern over the last several decades. While research has demonstrated that lack of resources, inadequate preparation time, excessive paperwork, lack of administrative support, and heavy workloads contribute to stress and burnout, the relationships that teachers have with students is the major part of a teacher's experience with stress (Bakewell, 1988; Kyriacou & Sutcliffe, 1978; Phillips, 1993).

The present study examines teachers' perceptions of their relationships with specific students, their experience of stress in relation to those students, and whether or not those perceptions and experiences translate into observable differences in actual teacher behavior toward those students in the classroom. Specifically, this project explores the validity of two teacher-pupil relationship measures, the Index of Teaching Stress [ITS] and the Student-Teacher Relationship Scale [STRS], to predict observed teacher behavior toward pupils.

First, the study examines whether a teacher's *perception of stress* as a function of her relationship with individual children relates to the behavior she demonstrates toward those children in the classroom. Second, this project assesses whether a teacher's *perceived relationship* with individual children relates to the way she behaves toward them. Finally, this project examines whether the concepts of teaching stress and student-teacher relationship as measured by the ITS and STRS would successfully identify students as "behaviorally challenging" or "control" when the 80th percentile was used as a cutoff for each of the scale total scores.

Method

The study took place in two middle schools in Central Virginia and involved 30 teachers and 60 students. Teachers were asked to complete three questionnaires pertaining to the relationships they have with both a behaviorally challenging and a control student in their classroom. The behaviorally challenging child is defined as a student who, in the teacher's opinion, exhibits behavior and/or emotional problems. The control student was selected from among other students in the class who matched the behaviorally challenging student by sex, race, and age. (Table 1)

The Index of Teaching Stress [ITS] and its two domain scores, child and teacher, were used to examine the stressors experienced by teachers in relation to the two students (Greene & Abidin, 1994; Greene, Abidin, & Kmetz, in press). The Student-Teacher Relationship Scale [STRS] (Pianta, 1994; 1996) and its subscale domains of "conflict," "closeness," and "dependency" were used to measure the teachers' perceptions of their relationships with these two students.

T-tests were conducted for both the ITS and STRS to examine for differences in teachers' perceptions between the control and behaviorally challenging students. A behavioral observation coding system was used in each classroom on two separate occasions with recording occurring in six-second intervals, for a total of one hour of observation time. The observers noted positive, negative, and neutral teacher behaviors toward their students. The observational data was examined in relation to the ITS and STRS to assess the measures' association with the quality of teacher behavior toward their students. Regression analyses were conducted to explore whether the ITS and STRS could significantly predict teacher behavior toward both types of students. Chi square analyses were used to determine significant relationships between the two types of students and the use of 80th percentile as a clinical cutoff score on the ITS and STRS.

Results

Differences in Teacher Behavior:
Significant differences were found for both negative and neutral teacher behavior toward the control and behaviorally challenging children. No significant differences were found for positive teacher behavior and either type of student. (Table 2) Mean differences between teacher behavior toward the control student and "other" children in the classroom were determined in order to investigate whether the control child was truly a randomly selected child. Significant differences between positive and neutral teacher behaviors were found, but not for negative teacher behavior and type of student. (Table 3)

Teaching Stress and Teacher Behavior:
As expected, the stress levels experienced by teachers revealed significant differences between the control and behaviorally challenging students. (Table 4).

For the behaviorally challenging student, significant negative correlations were found between teacher domain score and both positive and neutral teacher behaviors. With regard to the control child, significant correlations were found between total stress score and positive teacher behavior. The child domain score significantly predicted both positive and neutral teacher behavior toward the control child. (Tables 5 & 6)

Student-Teacher Relationship and Teacher Behavior:
Significant differences were found between the control and behaviorally challenging children with regard to teacher's relationship perception, as measured by the STRS total, conflict, and closeness scores. No significant differences were found between the control and behaviorally challenging students with regard to the dependency score. (Table 4)

For the behaviorally challenging student, significant negative correlations were found between the conflict score and positive and neutral teacher behavior. A significant positive correlation was found between STRS total score and neutral teacher behavior. For the control child, the STRS dependency score was significantly correlated with

positive teacher behavior; no significant associations were found with regard to teacher behavior. (Tables 5 & 6)

Differentiation of Type of Child:
The chi square analyses indicated that there is a significant association between the use of the 80th percentile of the ITS Total Score as a cutoff score and child identification as either a behaviorally challenging or control child (Pearson=32.31, p<.00001). No control child had a score on the ITS at the 80th percentile or above, while 70% of the behaviorally challenging children did. A similar, but slightly less accurate, hit rate was found for the domain scores of the ITS. No significant association with classification was found using the 80th percentile STRS Total Score as a clinical cutoff. (Table 7)

Discussion

Differences in Teacher Behavior:
Overall, teacher behavior toward the behaviorally challenging child involved greater amounts of negative and neutral behaviors compared to behavior demonstrated toward the control child. The amount of positive teacher behavior toward each type of student, however, was not significantly different. Perhaps the teachers made concerted efforts to balance the distribution of praise among both types of students due to the observation taking place in the classroom. Evidence to support this notion is found in the significant mean differences in positive teacher behavior between "control" students and "other" students in the classroom; that is, teachers demonstrated more positive behavior toward control students than they did toward other students in the classroom. This suggests that the observation process may have focused the teachers on the control and challenging children, and reduced the teachers' awareness of other children in the classroom.

Teaching Stress and Teacher Behavior:
The analyses conducted on the ITS data indicate that teachers experienced significantly greater stress in relation to the behaviorally challenging child than they did in relation to the control child. Specifically, as teacher stress level related to her self-perception as a competent professional increases, the number of positive and neutral behaviors demonstrated toward the behaviorally challenging child deceases; in effect, a teacher avoids contact with a behaviorally challenging student when stresses associated with her sense of competence as a teacher are elevated. The teacher domain score's significant prediction of neutral teacher behavior further supports the idea that the more stress induced by a behaviorally challenging child, the less engaged a teacher will be with that child.

It is interesting to note that the child domain score was not useful in understanding a teacher's behavior toward a challenging child. This suggests that teacher behavior toward a challenging child is impacted more by her sense of competence in relation to that child and the child's impact on her satisfaction from the teaching role than by that child 's particular behavioral characteristics. In contrast, both child domain score and

total score were related to positive and neutral teacher behaviors toward the control child. These results suggest that when teacher stress is related to the characteristics of the control child, a usually well-behaved student, a teacher is more likely to increase her overall attention, and her attention is likely to be more positive and or neutral. The reaction of the teacher to the high levels of stress induced by the challenging child, therefore, is one of avoidance, whereas for the control child,a teacher's reaction to moderate stress is one of attention and positive regard.

Student-Teacher Relationships and Teacher Behavior:
The analyses conducted on the STRS data indicate that teachers perceived greater warmth, less conflict, and more positive relations with the control child than with the behaviorally challenging child. For the behaviorally challenging child, the conflict score was negatively correlated with positive and neutral teacher behavior, a finding that echoes the ITS results: a teacher is less likely to engage with a student who presents difficulty and challenge, and may be more likely to ignore or avoid that child. The total score was correlated with neutral teacher behavior, suggesting that the more positive the relationship, the more likely the teacher will engage a child, regardless of membership in either group. However, as demonstrated by the significant regression of the STRS dependency score upon positive teacher behavior, if a teacher perceives dependency needs from a behaviorally challenging child, the teacher will demonstrate less positive behavior toward that child. In contrast, a control child with dependency needs will receive more positive attention from the teacher.

Differentiation of Type of Child:
It was expected in this study that the ITS and STRS scores would discriminate between the behaviorally challenging and control students when cutoff scores at the 80th percentile were used for each of the measures. Although the STRS did not yield significant results, the chi-square analyses demonstrated that the ITS total and domain scores may be useful in determining child membership in either group. Consistent with the results of the ITS correlation and regression analyses, the chi-square analysis of the ITS supports the use of the measure when examining the impact of teacher stress upon teacher behavior toward specific children in the classroom. Because ITS scores can identify children as behaviorally challenging, typical teacher perceptions about that child and probable teacher behavior toward that child may be assumed. These likely teacher perceptions and teacher behaviors then can be addressed in consultation with the teacher.

Conclusions

Overall, these results suggest that teachers have different perceptions of and experience different stress levels with regard to specific students in their classroom. These perceptions and stress levels are linked to their classroom behaviors and may bias their behavior toward those students. These findings provide initial validation of the use of the ITS and the STRS in understanding teacher stress, but they also have

implications for a number of other issues for the teaching profession. These issues include but are not limited to:

a) Referral patterns of teachers, whereby certain children are referred more frequently than others due to an individual teacher's stress tolerance pattern;

b) Self-fulfilling prophecies, whereby differential behavioral messages sent by teachers towards specific children may foster and maintain expectations that are either detrimental or salutary to students.

c) The development of focused consultations with teachers which identify specific sources of stress that impact their sense of self-efficacy and satisfaction, and which may negatively affect their teaching.

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Table 1. DEMOGRAPHICS OF SAMPLE

Variable	Teachers (N=30)	Children (N=60)
Male	6	54
Female	24	6
Mean Age	37.5	12.7
Race	1 Indian-American 1 African-American 28 Caucasian	12 African-American 48 Caucasian
Grade Level Teaching	9 sixth grade 11 seventh grade 9 eighth grade	NA

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Table 4. DIFFERENCES IN ITS SCORES:**
Control Child and Challenging Child Comparisons

	Control Child N=30 Mean age = 12.7		Challenging Child N=30 Mean age = 12.7		ITS Norms Random Child N=516 Mean age = 12.5	
	Mean	SD	Mean	SD	Mean	SD
ITS Total	115.5*	26.2	235.9*	45.9	166.0	65.7
Teacher Domain	54.4*	10.4	110.0*	25.6	75.9	29.7
Child Domain	61.1*	17.5	125.9*	29.0	93.0	40.6

*p<.00
**ITS=Index of Teaching Stress

Table 4 (continued). DIFFERENCES IN STRS** SCORES:
Control Child and Challenging Child Comparisons

	Control Child N=30 Mean age = 12.6		Challenging Child N=30 Mean age = 12.6		STRS Norms N=1535 Mean age = 4.5	
	Mean	SD	Mean	SD	Mean	SD
STRS Total	109.9*	10.0	81.3*	14.2	114.0	16.0
Conflict Domain	19.4*	5.3	36.5*	11.1	22.3	10.0
Closeness Domain	36.7*	8.0	26.8*	9.3	44.7	7.2
Dependency Domain	8.7	3.0	10.1	4.6	10.7	3.5

*p<.00
**STRS=Student-Teacher Relationship Scale

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Table 3. DIFFERENCES IN TEACHER BEHAVIOR TOWARD CONTROL CHILD AND CHALLENGING CHILD

	Control Child		Challenging Child	
	Mean	SD	Mean	SD
Total Behavior	27.9*	25.8	46.6*	31.1
Positive Behavior	2.4	3.1	2.6	3.9
Negative Behavior	1.4*	2.0	6.4*	5.7
Neutral Behavior	24.1*	22.6	37.4*	26.5

*p<.00

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Table 2. DIFFERENCES IN TEACHER BEHAVIOR TOWARD CONTROL VERSUS OTHER CHILD

	Control Child		Challenging Child	
	Mean	SD	Mean	SD
Total Behavior	27.9*	25.8	17.3*	10.0
Positive Behavior	2.4*	3.1	.8*	.8
Negative Behavior	1.4	2.0	1.0	1.2
Neutral Behavior	24.1**	22.6	15.2**	8.8

*p<.00
**p<.05

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Table 5. CORRELATION SUMMARY FOR ITS AND STRS VARIABLES: Teacher Behavior toward Control Child and Behaviorally Challenging Child

	Teacher Behavior		
Variable	Positive	Negative	Neutral
ITS / Control Child			
Total	.44*	.10	.32
Teacher Domain	.26	-.01	.18
Child Domain	.50**	.16	.37*
STRS / Control Child			
Total	.00	.03	-.03
Conflict	.21	.05	.10
Closeness	.32	.04	.07
Dependency	.43*	-.02	.08
ITS / Behaviorally Challenging Child			
Total	-.25	.08	-.32
Teacher Domain	-.38*	.09	-.49**
Child Domain	-.06	.04	-.08
STRS / Behaviorally Challenging Child			
Total	.31	-.05	.36*
Conflict	-.49**	.11	-.52**
Closeness	-.10	.09	-.06
Dependency	-.21	.16	-.16

*p<.05 **p<.01

Table 6. ITS AND STRS DOMAIN SCORES AS PREDICTORS OF TEACHER BEHAVIOR: Regression Summaries

	CONTROL CHILD			BEHAVIORALLY CHALLENGING CHILD		
	Teacher Behavior			Teacher Behavior		
SCORE	POSITIVE	NEGATIVE	NEUTRAL	POSITIVE	NEGATIVE	NEUTRAL
ITS Teacher Domain	-.99	ns	-.77	-1.79	ns	-2.94**
ITS Child Domain	3.02**	ns	2.08*	-1.03	ns	.78
STRS Conflict	.92	ns	1.13	.87	ns	-1.41
STRS Closeness	1.72	ns	.18	-.72	ns	-1.44
STRS Dependency	-1.03	ns	1.00	-2.26*	ns	-1.23

*p<.05
**p<.01
ns=not significant

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Table 7. CHI SQUARE ANALYSES FOR ITS AND STRS CUTOFF SCORES

Cutoff Score at 80th Percentile	CONTROL CHILD		BEHAVIORALLY CHALLENGING CHILD	
	n	%	n	%
ITS Total*				
Below 230	30	100	9	30
Above or at 230	0	0	21	70
Child Domain*				
Below 133	30	100	16	53
Above or at 133	0	0	14	47
Teacher Domain*				
Below 104	30	100	11	37
Above or at 104	0	0	19	63
STRS Total				
Below 127	29	97	30	100
Above or at 127	1	3	0	0

*p<.00

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